UNDERSTANDING THE PHYSIOLOGY AND BEHAVIOR OF ANGLED AND AIR EXPOSED STRIPED BASS USING A RAPID ASSESSMENT APPROACH

Jeffrey Webb[1], Emily Cristiano[1], Kylie Johnson[1] and Kristen Ranges[2]

[1] Monmouth University Marine and Environmental Biology and Policy Program
[2] University of Delaware School of Marine Science and Policy

ABSTRACT

Removing fish from the water causes gill layers to collapse and gill filament adhesion which can be extremely stressful to fish. The duration of air exposure of angled and released fish influences their recovery time and can lead to impairments in behaviors such as swimming performance or feeding. Prolonged air exposure can even result in mortality.

The purpose of this project was to design and test rapid assessment techniques that will enable us to better understand the physiology and post-release behavior of angled and air exposed striped bass (*Morone saxatilis*). This information will be critical in achieving our goal of developing recommendations on maximum time out of water for angled striped bass intended for release.

In order to accomplish this, Reflex Action Mortality Predictor Assessment (RAMP) and Physiological Stress Assessment (PSA) procedures have been developed. The RAMP assessment consist of an Injury Symptom Assessment (IS) and a Reflex Impairment Assessment (RI). The IS uses easily observed injury symptoms as indicators of stress in angled fish. The RI uses observations of reflex actions that are considered absent in unstressed striped bass. The Physiological Stress Assessment will analyze lactate, glucose, and pH levels from blood samples collected in a non-lethal manner from fish angled and air exposed for varying durations (30, 60 or 180 seconds). Based on our preliminary proof-of-concept testing, these rapid assessment techniques have been refined and are ready to employ during the fall 2015 and spring 2016 striped bass fisheries with volunteer recreational anglers from the Berkeley Striper Club.